

CLAIMS

1. Device to produce ice-cream applied to ice-cream producing machines of a domestic or semi-professional type which cooperates with a refrigeration unit and wherein there  
5 is an outer container (11), a cover (26), an inner container (14), a mixing blade (20), an evaporator coil (21) to remove heat from the inner container (14) and, through this, from the material present therein, the mixing blade (20) being associated with a drive shaft (19) driven in rotation by  
10 drive means, wherein the evaporator coil (21) is located in cooperation with the bottom (17) of the inner container (14), through at least a contact surface (27), characterized in that said inner container (14) is axially mobile to assume at least an axial working position correlated to the  
15 position of the cover (26) when it is installed on the outer container (11), said inner container (14) being pressed elastically against the evaporator coil (21) by spring means (22) located under the evaporator coil (21).
2. Device as in claim 1, characterized in that the mating  
20 contact surfaces (27) of the bottom (17) and of the evaporator coil (21) are flat.
3. Device as in claim 1, characterized in that the mating contact surfaces (27) of the bottom (17) and of the evaporator coil (21) have a plurality of rings having a  
25 geometric profile (wavy, V-shaped, etc.).
4. Device as in claim 1, characterized in that the mating contact surfaces (27) of the bottom (17) and of the evaporator coil (21) have an arc-type development.
5. Device as in claim 1, characterized in that the mating  
30 contact surfaces (27) of the bottom (17) and of the evaporator coil (21) have a V-shaped development (inner or outer).
6. Device as in any claim hereinbefore, characterized in

that the diameter of the bottom (17) is in ratio to the height occupied by the ice-cream in the inner container (14) inside a range which goes from about 0.30 to about 0.50, advantageously from about 0.38 to about 0.42.

5 7. Device as in any claim hereinbefore, characterized in that the evaporator coil (21) comprises a coil element (24) incorporated in a material with a high coefficient of heat transmission.

8. Device as in any claim hereinbefore, characterized in  
10 that the mixing blade (20) is conformed so as to thrust upwards the material present in the inner container (14).

9. Device as in any claim hereinbefore, characterized in that said evaporator coil (21) includes at least a supporting base (25) supporting and positioning said coil  
15 element (24) by means of a relative lower contact surface (127), said spring means (22) being positioned between said supporting base (25) and a fixed surface solid with said outer container (11).

10. Device as in any claim hereinbefore, characterized in  
20 that said coil element (24) has a thickness of between 0.2 and 0.6 mm.

11. Device as in claim 10, characterized in that said coil element (24) has a thickness of about 0.4 mm.

12. Device as in any claim hereinbefore, characterized in  
25 that said coil element (24) has at least a substantially plane upper contact surface (27).

13. Device as in any claim hereinbefore, characterized in that said coil element (24) has at least a substantially plane lower contact surface (127).

30 14. Device as in any claim hereinbefore, characterized in that said coil element (24) is able to be elastically deformed when it is pressed by said inner container (14) arranged in the working position.

15. Device as in any claim hereinbefore, characterized in that the elastic pressure, generated by said spring means (22) between the evaporator coil (21) and the bottom (17) of the inner container (14), is between 20 and 60 kg.

5 16. Device as in any claim hereinbefore, characterized in that, between said coil element (24) and said bottom (17) of the inner container (14), the evaporator coil (21) has a plate or foil (23) made of heat conductor material.

10 17. Device as in claim 16, characterized in that said plate or foil (23) has a thickness of between 0.1 and 0.6 mm, advantageously about 0.3 mm.